

Morgan County Planning Commission Study on Zoning

Introduction to the Zoning Study

Upon review and acceptance of the Morgan County Planning Commission's November, 2009 Land Use Report, County Commissioners directed the Planning Commission to conduct a zoning study and report, as required by Section 8-A of the West Virginia Code, focusing on four major issues identified in the Issues and Options section of the Land Use Report. These are (1) billboards, (2) water recharge areas, (3) industrial and commercial areas, and (4) housing density.

The County Commissioners then appointed a six-member citizens' advisory committee to work with the Planning Commission's Land Use Subcommittee in the Subcommittee's effort to produce the zoning study. The Planning Commission's Land Use Subcommittee is comprised of Jack Soronen, Scott Swaim, Wayne Omps, Susan Parker, Amy Lane and Brad Close. The six members of the Citizens' Advisory Committee to the Planning Commission's Land Use Subcommittee are Reuben Darby, Robert Marggraf, Rebecca McLeod, Helena Moser, Mike Pearse, and Barbara Tutor. The Commissioners asked the Planning Commission to expedite the zoning study and report with the goal of preparing a proposed zoning ordinance for inclusion in the November, 2010 election ballot.

For the purpose of this narrative, the Zoning Study is considered to be a discussion of land use issues and the elaboration of the four primary land use issues that were referred by the County Commissioners to the Planning Commission as the focus of their future work. The Zoning Report is construed to be the draft zoning ordinance prepared by the Planning Commission that will follow from the Study.

Given the short timeline to produce the Zoning Study, the Planning Commission's Subcommittee chair, Jack Soronen, set a goal to have a draft of the zoning study for the Planning Commission's review at its December, 2009 meeting. The Planning Commission's November, 2009 Land Use Report is incorporated as Section I of this Zoning Study. Small task groups were established and asked to expand on the points raised at the November 10th, Land Use Subcommittee meeting and provide a short report on each of the issues at the Land Use Subcommittee meeting on November 24th. The products of these reviews are incorporated as Section 2 of this Zoning Study.

It should be noted here that the pursuit of zoning as a remedy for land use concerns is reflected in Morgan County's Comprehensive Plan (2007) which is an important source of relevant information, particularly mapping. In the Plan, zoning is included as an important tool to consider when undertaking land use planning (page LU-12). This Study represents the latest phase in the evaluation of zoning that the Plan recommends to accomplish the goals of land use planning cited therein (page LU-13). The goals for enhancement of public services in Morgan County focus on education,

public safety, general government, and the health and welfare of its citizen and include promoting the location of public schools in targeted growth areas, ensuring adequate access to emergency services in areas of new development, and supporting coordination among local government entities and regional planning organizations in efforts to identify, designate and plan for future public service needs. (page PS-14). The chapter on Preferred Development Areas of the Plan mentions that there are several areas where development is preferred due in large part to the existence of available public infrastructure features to adequately serve additional growth. These preferred development areas include incorporated towns, existing rural villages, and newer subdivisions that increasingly serve as self-contained communities. The goals for the Preferred Development Areas section of the Plan state that it is important for government to guide growth in a way that makes the most efficient use of public services and infrastructure (page PD-8). There is little question that zoning is a robust tool to accomplish such planning.

It is worth reiterating that the Planning Commission suggested in its November, 2009, Land Use Report to the County Commissioners that any land use regulation represent the least intrusive means to accomplish the desired end. Anything more represents an unwarranted government reach into private lives and business.

Section I – Land Use Issues

Part I - Introduction

On June 23, 2009, the Morgan County Commission directed the Planning Commission to take up the matter of local land use and report back to the County Commission by the end of September 2009. The result of the Planning Commission's effort was to be an itemization of the significant land use issues in this jurisdiction, along with a matching list of possible options for addressing them (e.g. state law, policy, programs; local ordinances or actions; zoning). The Planning Commission's role was to gather, review, and synthesize information about land use topics deemed important by the community. The result, which follows, is a table of these issues and options. With some issues, the options exist to address some or all of the problems; in others there is nothing (e.g. zoning) in place that would have the authority to have an effect. The Planning Commission was not asked for recommendations for future actions. The determination of whether an issue is of such urgency that it should be pursued, or whether an option adequately deals with an issue is a political decision properly made by the elected officials who requested the survey.

The issues listed here were derived primarily from the following sources: The Morgan County Comprehensive Plan (2007), developed with widespread community involvement; the product of the 2008 Land Use Committee authorized by the County Commission and chaired by the Honorable Glen Stotler; two public meetings conducted by the Planning Commission (August 4, 2009 at Warm Springs Middle School and August 11, 2009 at the Paw Paw Senior Center.); written responses to letters soliciting input from targeted local entities (e.g. the public schools, Economic Development

Authority); and other written comments offered by citizens. The text of this input is included as an attachment to this report. A subcommittee of the Planning Commission and the Planning Commission as a whole then reviewed the information to produce the content of the final document.

In the preparation of any report like this, there are certain explicit and implicit assumptions which drive and shape the result. The Planning Commission acknowledges the following ones. In addition to the three choices suggested by the County Commission (cited above), the range of possible options may be viewed as a scale with “do nothing” and “voluntary action” at the level of the least government involvement, and federal and state law, regulation and policies, local ordinances and decisions, and particularly, zoning, demonstrating greater government involvement in land use decisions. “No action” and “voluntary action” are choices that are available in most situations, and may be preferable in some, but they are assumed and not listed for each issue in the list. The fact that this survey was requested indicates the “do nothing” position is at least being debated; and, while the status quo may be a reasonable stance on some issues, this position may not represent the best approach to planning the future of Morgan County.

The Planning Commission chose to treat the concept of growth as the rate and location of growth, that is, matching the creation and expansion of infrastructure with the pace of growth, rather than as a growth / no growth issue. (By definition, growth is dynamic, and the concept of no growth was not seriously considered. The decision to limit growth is clearly a political one, and the options for doing so would appear to be limited and many are largely beyond local control, e.g. court decisions, natural disasters, and economic forces. Others, such as the location of high density housing and industry, and prohibiting water and sewer hookups, would be part of a zoning and infrastructure expansion and water availability discussions.) In the case of the stated options, determining all the specific statutory and regulatory references for each task requires a degree of research beyond the scope of this report. However, a list of major references from the state code, and relevant local ordinances is included in the Part II.

According to current understanding of statutes and court decisions, only zoning can determine where a particular type of development can occur, e.g. where high density housing can be built. How, and to what engineering standards it is constructed are covered in local ordinances. The following list reflects this distinction. Part 3 of this report contains a further discussion on the nature and implications of zoning, developing a capital improvement plan, and impact fees.

There were some issues that the Planning Commission deemed to be extremely important, but were not thought to be primarily land use issues. These items were removed to a separate list to retain their visibility, but avoid diluting the focus on the major land use issues. Also, there were some issues, particularly the matter of individual property rights, for which the process of addressing them was seen as critical, and this is outlined in Note 4 in Part 2 of this report.

The material stated here represents the combined information, opinion, expertise and experience of the members of the community who chose to provide input, and the Planning Commission and its staff. The content has not been subjected to a legal review.

Finally, the Planning Commission would like to thank the County Commissioners for giving the Planning Commission the opportunity to participate in the wider discussion of land use issues. The Planning Commission would also like to thank the many people who gave their time to participate in this effort either by attending a public meeting or providing thoughtful written input. It is a tribute to the citizens of Morgan County that so many are willing to work together for the betterment of this community. And, finally, the Planning Commission would like to extend its appreciation to Alma Gorse, County Planner, for her superb staff support.

What follows is the Planning Commission's synthesis of the issues linked to the options with the authority to address them. For some issues, statutes, regulations, policies, processes and procedures may already be in place, but for others there is clearly a void. Determining the specifics for each is a future task requiring a degree of research beyond the scope of this report.

Part II - List of Issues and Options

<u>Issues</u>	<u>Options</u>
<p>1. Growth = Services (existing and future) infrastructure Ensure availability of services such as fire, rescue, law enforcement, schools, water and sewer infrastructure, road construction and capacity, establishment of public transportation and solid waste.</p>	<p>Capital Improvement Plan Bond Process/Grants/Loans Development of Impact Fee Structure/ State Regulations/Zoning</p>
<p>2. Rural Nature / Farmland Protection / Sprawl vs. Clustering Development / Walkable Communities / Preserving a Sense of Community</p> <p>a. Preservation of open space</p> <p>i. Within individual properties being developed</p> <p>ii. Across county, and beyond individual property boundaries</p> <p>b. Density of development</p> <p>i. Conditions and standards within the boundaries of an individual property or development</p> <p>ii. Determining where high, medium and low density development can occur</p>	<p>2.a.i Ordinances</p> <p>2. a. ii Zoning</p> <p>2. b. i. State law, Ordinances</p> <p>2.b. ii. Zoning</p>
<p>3. Property Owners Rights</p> <p>a. Freedom to determine the use of one's own property</p> <p>b. Freedom from the effects of the use of neighboring properties.</p>	<p>3.a. See Note # 4 "Process," below.</p> <p>3.b. Ordinances (buffering); Zoning</p>
<p>4. Water Related</p> <p>a. Water availability and quality; long term serviceability of individual wells (Given the uncertain nature of underground water location and flow, each option can attempt to address water availability and quality, but none affords a guarantee.)</p> <p>i. Placement of wells</p> <p>ii. Concentration of wells / density of development.</p> <p>b. Water conservation and recharge</p>	<p>4.a. i. State (water rights and Health Department [HD])</p> <p>4.a. ii. Zoning</p> <p>4.b. Ordinances and practices</p>

<p>practices</p> <ul style="list-style-type: none"> c. Commercial extraction of water; limiting the potential for commercial extraction d. Designation of recharge areas for springs in town and providing for protection (Recharge areas would need to be located and confirmed, if it is technically possible to do so.) e. Establishment of riparian buffers for stream bank protection f. Reduction of sediment in streams g. Setbacks from streams for well and septic locations to reduce contamination h. Floodplain / wetlands: limit impact of disturbance in floodplain and around wetlands i. Effluent discharge in streams from public and community sewage systems. 	<p>4.c. State</p> <p>4.d. State, Zoning</p> <p>4.e. State, Ordinances, Zoning</p> <p>4.f. State (DEP), Ordinances</p> <p>4.g. State (HD), Ordinances</p> <p>4.h. Federal, State, Ordinances, Zoning</p> <p>4.i. Federal, State, Local Public Service District policies</p>
<p>5. Regulation of billboard locations</p> <ul style="list-style-type: none"> a. Prohibitions for specific sites b. Prohibitions for broad areas 	<p>5.a. Federal , State, Zoning</p> <p>5.b. Zoning</p>
<p>6. Protection of view sheds</p>	<p>State (Designating Scenic Byways), Zoning</p>
<p>7. Protection of steep slopes and hillsides</p>	<p>Ordinances, Engineering</p>
<p>8. Preservation of historic sites</p> <ul style="list-style-type: none"> a. Protection and buffering related to creation of subdivision b. Protection of individual properties c. Protection from effects of projects using federal and state money (e.g. roads) 	<p>8.a. Ordinances</p> <p>8.b. Zoning</p> <p>8.c. Federal, State statutes</p>
<p>9. Promotion of various types of recreational facilities and activities such as</p> <ul style="list-style-type: none"> a. Countywide hiking and biking trails; countywide parks, obtaining land for future fair site b. Encourage creation of parks, common areas, and trails within developments 	<p>9.a. Capital Improvement Plan</p> <p>9.b. Ordinances</p>
<p>10. Economic development efforts such as</p> <p>Promoting new businesses;</p> <p>Improving accessibility of high speed internet; and</p> <p>Promoting “green” businesses</p>	<p>Local efforts</p>
<p>10. Incompatible uses</p>	

<ul style="list-style-type: none"> a. Buffering of certain land uses b. Location of certain types of businesses c. Property owners' rights d. Light pollution <ul style="list-style-type: none"> i. Special case: Protection of dark skies at Morgan County Observatory 	<ul style="list-style-type: none"> 10.a. Ordinances, Zoning 10.b. Zoning 10.c. See Note # 4, "Process," below. 10.d. Ordinance (buffering, lighting styles); Zoning
11. Affordable housing	Ordinances, Zoning

Other Issues not related to Land Use:

- Establishment of Capital Improvement Plan
- Building Code Enforcement
- Septic tank maintenance and inspections
- Water Rights
- Air Quality

NOTES:

1. "Do nothing" and "voluntary action" are assumed as options for all land use issues.
2. Capital improvement plan, zoning, and impact fees are discussed in Part III of this report.
3. Federal and State statutes refer to issues under the control of those authorities.
4. "*Process*" refers to the method by which land use regulation is adopted. It should consist of the *least intrusive* government regulation required to accomplish the goal; where applicable, appropriate, and legal, *compensation* to citizens whose property is affected; and *citizen review* of changes to statutes and ordinances, through referendum in the case of significant changes to a zoning ordinance.
5. Local ordinances are those established by our County Commission as authorized by State Code and currently include:
 - Building Permit (Improvement Location Permit) requirements
 - Requires permits for structures and improvements to property
 - Enacted in 1983
 - Subdivision Regulations
 - Requirements for division of land
 - Enacted September 1983
 - Stormwater Management Regulations
 - Regulate impact of stormwater runoff due to the change in land use (Requirement for Subdivision and Commercial Ordinances)
 - Enacted December 2001
 - Commercial and Industrial Improvement Location Permit Ordinance

- Regulations for commercial site construction
Enacted September 1996
- Exotic Entertainment Ordinance
Requirements for locating this type of business
Enacted August 2004 and July 2009
- Floodplain Regulations
Requirements for activities located within flood prone areas
(disturbance of land and construction)
Enacted January 1986
- Salvage Yard Ordinance
Regulates construction of salvage yards and salvage activities
Enacted February 1985
- Washington Heritage Trail Outdoor Advertising Regulations
Regulations for off site advertising
Enacted August 2007
- Ordinance to Abate Excessive Residential Noise
Regulates noise thru decibel limits, types of noise and time of day noise is occurring
Enacted April 2007

Definitions:

Billboard:

A panel for the display of advertisements in public places such as along side highways or on the side of buildings. Generally includes off site signs (i.e. those placed off the property of the business being advertised.)

Capital Improvement Plan:

A Capital Improvement Plan, or CIP, is a short-range plan, usually four to six years, which identifies capital projects and equipment purchases, provides a planning and implementation schedule and identifies options for financing the plan (through bonds, taxes, grants, regular fees, impact fees, or a combination of sources). Essentially, the plan provides a link between the county, school district, parks and recreation department and/or other local government entities, a comprehensive or strategic plan and the county's annual budget.

Although a CIP is a prerequisite to pursuing enactment of the Local Powers Act, the process of creating and maintaining a CIP (which is the responsibility of the County Commission), may be undertaken independent of Act requirements. In and of itself, the CIP benefits a county by:

Allowing for a systematic evaluation of all potential projects at the same time;

Stabilizing debt and consolidating projects to reduce borrowing costs;

Serving as a public information and economic development tool;

Providing a focus on preserving a governmental entity's infrastructure while ensuring the efficient use of public funds;

Fostering cooperation among departments and informing other units of government of the entity's priorities. For example, it is not uncommon for a large city or county to incorporate into its CIP the capital needs of a school district, parks and recreation department and/or some other public service structure.

Sprawl:

Poorly planned or uncontrolled growth, usually of a low density nature, within previously rural areas, that is land consumptive, designed without respect to its surroundings, and some distance from existing development and infrastructure.

View sheds:

An area of greater community interest beyond parameters of personal space or private property. An area of land, water, or other environmental element that is visible to the human eye from a fixed vantage point.

Zoning:

The division of a municipality or county into districts or zones which specify permitted and conditional uses and development standards for real property within the districts or zones.

Part III – Discussion of West Virginia State Code: Zoning and the Local Powers Act (Impact Fees)

Zoning (Designating land uses within certain areas)

West Virginia State Code authorizes counties with Comprehensive Plans to adopt a zoning ordinance. There are several aspects to the development and adoption of a zoning ordinance, but the following are presented as the most relevant for consideration by the Morgan County Commission.

The Code lists the mandatory components of a zoning ordinance as:

1. creating a board of zoning appeals;
2. specifying certification requirements for zoning district maps that are consistent with the jurisdiction's comprehensive plan; and
3. adopting procedures and requirements for
 - a. nonconforming land uses;
 - b. variances; and
 - c. conditional use permits.

There are additional components of an ordinance cited in Code, but they are classified as discretionary or are not of immediate relevance.

When considering developing and adopting a zoning ordinance, the Code requires that the County Commission conduct a study of the land within its jurisdiction. This study may include evaluating the existing conditions, the character of the buildings, the most desirable use for the land, and the conservation of property values in relation to the adopted Comprehensive Plan. The study may also include public hearings and meetings.

The Planning Commission is then required to use the study and the Comprehensive Plan to prepare a report on zoning. This report must include the proposed zoning ordinance with maps showing recommended boundaries, rules, regulations and restrictions for each zone. The proposed zoning ordinance must be completed in draft form to be a part of the Planning Commission's report. The study by the governing body and the report by the Planning Commission are prerequisites to enactment of a zoning ordinance. After conducting two mandatory public hearings, the County Commission may enact the zoning ordinance or it may choose to hold an election by the qualified voters residing in the affected area(s). If the County Commission enacts the Ordinance without an election, a petition by 10% of the voters will force an election.

A zoning district may cover a county's entire jurisdiction or parts of its jurisdiction. Each district must be subject to the same rules, regulations, standards and designations throughout the zone, unless there are specific provisions allowing exceptions. Overlay districts and special design districts may have specific additional development standards for each permitted or conditional use. The boundaries of each zone and the designated classifications

must be shown on a zoning district map. Zoning districts may overlap. The boundaries may only be changed after the appropriate public hearing and adoption by the County Commission. Changes to the zoning map are amendments to the zoning ordinance. The County Commission must certify the original zoning district map, as well as subsequent maps.

Local Powers Act (Impact Fees) ¹

State Code authorizes counties affected by new development to require the payment of fees for any new capital improvements or the provision of other services attributable to such development. It must be demonstrated that some reasonable benefit from any such capital improvements will be realized by any such development project. Impact fees assessed against a development project to fund capital improvements and public services may not exceed the actual proportionate share of any benefit realized by such project relative to the benefit to the resident taxpayers.

“Impact fees” means any charge, fee, or assessment levied as a condition of the:

1. issuance of a subdivision or site plan approval;
2. issuance of a building permit; and
3. approval of a certificate of occupancy, or other development or construction approval when any portion of the revenues collected is intended to fund any portion of the costs of capital improvements or any public facilities or county services not otherwise permitted by law.

“Capital improvements” as used in Code is limited to those improvements that are treated as capitalized expenses and that have an expected useful life of no less than three years. This does not include costs associated with the operation, repair, maintenance, or full replacement of capital improvements.

“Capital improvements” means the following public facilities or assets that are owned, supported or established by county government:

1. water treatment and distribution facilities;
2. wastewater treatment and disposal facilities;
3. sanitary sewers;
4. storm water, drainage, and flood control facilities;
5. public primary and secondary school facilities;
6. public road systems and rights-of-way;
7. parks and recreational facilities; and
8. police, emergency medical, rescue, and fire protection facilities.

¹ Information for this description taken from State Code and from a hand-out provided by Mr. Mark Schiavone, Director of Jefferson County Capital Planning and Management.

Requirements to enable the Local Powers Act:

1. demonstration of growth rate of 1% or more over a five year period. Once growth county status has been established, this label is permanent.
2. adoption of a countywide comprehensive plan.
3. adoption of a comprehensive zoning ordinance.
4. maintenance of a building review program (adoption of International Building Code and implementation of a building inspection program).
5. maintenance of a Capital Improvement Plan (CIP) with:
 - a. list of capital projects;
 - b. list of sites with building potential; and
 - c. standards of service for capital improvements funded in whole or in part by impact fees.

Using the structure employed by Jefferson County to calculate their impact fees, a theoretical example of how this might work for Morgan County would be (note that numbers are for illustration purposes and are not actual):

1. calculate the capitalization for a category of county service. For this example, let's say that the monetary value of the Sheriff's department buildings and vehicles is \$1,000,000.
2. determine the applicable cost per citizen by dividing the population into \$1,000,000. If we say that the population of Morgan County is 16,000, then the cost per citizen for the capital investment in the Sheriff's Dept. is \$62.
3. multiply the cost per citizen (\$62.) by the expected number of citizens projected for each type of housing in a proposed subdivision or home.

single family detached	2.63	x \$62	= \$ 163.
town home/duplex	2.01		\$ 124.
multifamily apartment	1.98		\$ 122.

In this example, the last column shows the amount of the fee for each residence for the Sheriff's Dept. if there were improvements to the Sheriff's Dept. needed as a result of the construction of that residence. If there were other capital improvements needed in other categories of county services, such as fire protection, those fees would be calculated in the same way and added together.

All applicable fees would be applied to all housing permits – new subdivisions and individual home-builders alike.

Fees must be expended within a 6-year period. They may only be expended on projects listed on the county's Capital Improvement Plan. The county may create fee collection / fee expenditure districts (Jefferson does not).

Jefferson has established an office to manage their impact fees. Their Coordinator analyzes each proposed CIP project to determine eligibility for fee funding. A project:

1. must be needed in whole or in part due to growth; and
2. must not increase the standard or level of service, i.e. only expand capacity required for the additional population.

Jefferson Co. has extensive record-keeping procedures to track and account for fees collected and the expenditure to which those individual homeowner's fees are applied. Periodically, they employ consultants to calculate or recalculate their fee structure.

Part IV – Description of Morgan County (Excerpted from the Morgan County Comprehensive Plan – 2007)

Residential land use comprises approximately 10,914 acres of the total area within Morgan County, with just over 6,500 acres estimated as developed. This is a significant increase from less than 4,700 acres in 1980. This land use designation is made up primarily of three types of residential development. These areas include urban growth served by public water and sewer, newer suburban subdivisions, some with their own water and sewer systems, and the less defined rural pockets of residential dwellings. These types overlap other developed land use designations such as municipal as well as undeveloped land use designations such as woodlands and agricultural.

Commercial land use comprises 1,212 acres of the total area within the County, for those areas specifically outside of the incorporated towns and excluding industrial business parks. This is a new category from the 1985 Comprehensive Plan, and although it currently represents a small percent of the total County acreage is projected to increase throughout the County with the proliferation of new, larger residential developments in areas where growth pressures did not previously exist. This land use designation is made up primarily of retail and service businesses that are located in and around residential development. Development of property for commercial use is also affected by the location of necessary public services as well as the adequacy of public infrastructure such as roads, water, and sewer.

Industrial land use comprises 3,014 acres of the total area within the county, most of which is owned by the US Silica Company. This area includes property that is part of undeveloped industrial property holdings, currently utilized for light industrial and manufacturing industries and underutilized developed land which may no longer serve its original purpose or be in full operation. Most of the land reflected in the 1985 Plan included more than 7,000 acres of undeveloped property holdings under two companies, while the remainder was spread among nine smaller sites around the Berkeley Springs and Paw Paw areas. However, since that time the major landholders either sold off or changed their prospective use of the properties while most of the smaller sites have been developed or abandoned for industrial use and replaced with more appropriate locations. In order to designate and promote appropriate future industrial and manufacturing uses for these properties, it is important to understand the change in industries that provide the largest employment base for the local County workforce.

Agricultural land use comprises nearly 23,000 acres of the total area within the County. This is a decrease from more than 26,000 in 1980, and represents approximately 16% of the total County land area. Although the number of farms within the County has increased from 143 to 178, the average acreage per farm has decreased from 182 to 129 during this period. Further, the overall acreage being actively farmed has decreased from more than 13,000 acres in 1980 to less than 10,000 acres in 2005, with the remaining property primarily wooded.

Recreational land use comprises 11,562 acres of the total area within the County. The primary difference or loss of recreational land over the 1985 Plan analysis is removing the 1,800 acre Coolfont Resort area that is privately owned, and therefore not available to be classified as a public recreational area. Also, not included in this acreage is land designated as educational. Recreational land referred to here is owned and maintained primarily by the various governing entities for both active and passive use.

Educational land use, which totals 150 acres of the County land, comprises a small percentage of the total area within the County. This is primarily due to both a small and widely spread population that has not experienced a level of growth requiring construction of significant additional educational facilities and their accompanying school athletic field needs. Over the last decade several older schools on smaller properties have been replaced by newer schools on larger campus settings, two of which make up two-thirds of the total acreage.

Municipal land use comprises 704 acres of the total land within the County. This land exists within the two incorporated towns including nearly 400 acres in the Town of Bath and the remainder in the Town of Paw Paw. The increase in acreage from 1980 to 2005 is due to differences in classification, whereas the 1985 Plan classified some areas in the County as “urban built-up area”, and the classification for the current Plan refers specifically to those areas within the municipal limits. In reality there have been less than 50 acres of land annexed during that period. Due to the varying mixture of uses, and the continual evolution of these primarily built-up areas, it is difficult to classify any large single area within either Town under one particular land use designation. Therefore it is understood for purposes of this chapter that areas within each town contribute in some part to all of the land uses listed.

Public land use is defined in this study as land other than schools and parks owned by government for the provision of public utilities and services such as water and sewer, police, fire, libraries, and transportation. These uses comprise a small amount of the overall County acreage.

Woodlands comprise 117,000 acres of the total area within the County. This land use makes up a large part of the County, covering vast areas across many types of land uses including more than 11,000 acres in recreational, 12,000 in agricultural and some smaller amounts in other classifications. The net acreage thus represents roughly 80% of the total County land area. This acreage has remained relatively constant over time due in large part to some areas previously in active agricultural production giving way to passive woodland, while in other areas previously wooded, new development has occurred. It is estimated that clear cutting for development accounts for only 130 acres of the total 1,130 acres cleared per year.

Historic and conservation land uses act more as an overlay to those areas previously outlined. Historic areas may include both natural and built features within the

County. Conservation areas include both public and private properties that may call for special regulation that preserves their environmental integrity and sensitive elements.

In addition to the various land use categories is the acreage for roads and water. Water coverage makes up less than 1% of the County's total landmass, which equates to just over 1,000 acres. This has remained relatively constant over time as development and environmental changes have not had significant effects on changing the County's waterways.

As residential development has increased since the 1985 Plan, local road systems have been added to serve new homes and accompanying commercial centers. Added to the nearly 400 lane miles of roads maintained by the West Virginia Department of Transportation, highway and road systems are estimated to cover approximately 3,000 acres of the total County land area.

Based on US Census data the total County land mass consists of 229.67 square miles. Converted to acres, the total County land mass is 146,988.8 acres. Subtracting out the total estimated acreage covered by water and roads, the total net land use acreage is approximately 142,970 acres.

In developing Table 1-1, all acreage for those types of land uses clearly documented were established first. From this calculation acreage for those land uses not documented, specifically residential and commercial, were estimated from the remainder.

Based on review of the 2006 County tax year statistics it was estimated that 10% of the remaining acreage could be classified as commercial and 90% residential with 80% and 61% developed respectively. Several notable changes from the 1985 Plan include:

- Reduction in total estimated County acreage from 149,277 to 146,989
- Increase in total residential acreage
- Accounting for undeveloped acreage in the residential planning pipeline
- Reduction in total industrial acreage due to changes in designation of land holdings
- Reduction in recreational land due to removal of a large private recreational property
- Increase in municipal acreage from 1985 which listed an "urban" acreage of 416

Table 1-1 Land Use (acres)

Land use	1980	1980 Net	2000	2000 Net	Change in Acreage
Residential	4,864	4,864	10,914	6,658	6,050
Commercial	N/A	N/A	1,212	971	N/A
Industrial	8,162	511	3,014	678	-5,148
Agricultural	26,068	13,635	22,953	9,475	-3,115
Woodlands	21,650	129,301	117,000	123,834	-4,650
Recreational	13,315	500	11,562	500	-1,753

Educational	50	50	150	150	100
Municipal	416	416	704	704	288
Total	149,277		142,970		

Source: Morgan County Government, USDA Census of Agriculture

Population Trends

For purposes of development analysis and growth projections, this section is divided into 3 planning areas made up of 6 districts. These areas include: the small northeastern tip of the County known as the Sleepy Creek region, the Central Valley region, made up of four districts that encompass the largest and most heavily populated area, and the southwestern mountain area known as the Cacapon region, which includes the Town of Paw Paw as well as a large amount of publicly owned lands.

Morgan County is the western-most of three counties that make up the Eastern Panhandle of West Virginia. These counties, unlike much of the rest of the State have experienced significant increases in growth over the past 50 years, due in large part to the automobile-driven development pressures from the growing metropolitan areas of Baltimore and Washington to the east. It has also experienced recent pressures from the spreading Winchester area in Virginia, to the south.

Historic growth shows that the County experienced a 25% increase in residential growth between 1970 and 1980. Prior to this time growth was either negligible or in some areas declining. This increase in growth, however, did not result in a significant increase in population since the average household size continued to decline from 3.1 persons per household in 1970 to 2.8 in 1980. Further, an increasing percentage of this residential growth was due to new construction of scattered minor rural subdivisions and single lot recreational homes. By 1980 the decrease in average household size and increase in rural lot development produced roughly an average population of 46 persons in 16 households per square mile.

Between 1980 and 1990 the growth trend slightly declined, producing roughly 57 additional households or 143 persons each year as compared with nearly 74 new households and 215 persons per year in the previous decade. This decline included further decline in household size to just over 2.5 persons on average. Growth patterns during this period were focused on new development being located in the Sleepy Creek and upper Central Valley regions.

In spite of the further decline of household size to 2.43 persons per household, the growth trend of the previous decade nearly doubled between 1990 and 2000, adding more than 117 new households and 280 persons per year, which accounted for an increase in population from just over 12,000 in 1990 to nearly 15,000 in 2000. One important trend bolstering new households during this period is the reduction of vacant rental units from nearly 13% to 7.6% in this period. As a result of the significant increase in growth from 1980 to 2000 the average population and households increased to roughly 65 persons in

27 households per square mile, which accounted for nearly a 71% population and 60% housing increase over the 1980 figure.

Table 1-2 Population Trends

Trend	1960-1970	1970-1980	1980-1990	1990-2000
Household Size	3.1	2.8	2.5	2.43
Units per Year	7	74	57	117
Annual Population Increase	20	215	143	280
Housing per Square Mile	14	20	23	30
Persons per Square Mile	37	46	52	65

Source: US Census Reports

Although new housing development has increased significantly in cost and capacity, it appears the most important impact on the County is location. The geographic distribution of housing appears to reflect the continued trend of much of the new growth occurring in the Central Valley region. As more than 70% of all new growth has been in this region over the past several decades, more than 90% of the new growth potential is projected to occur in this region.

The demand for mobile home construction comes from both an issue of affordability as well as a greater general acceptance of the higher quality type mobile home structures being introduced into the market. Also, while many homebuyers continue to seek larger homes on several acre lots, larger builders are introducing a new trend toward larger developments located near existing services with homes on smaller lots.

The demand for seasonal housing has changed over time, with a growing trend toward middle age and older couples seeking long weekend use and eventual retirement locations. However, there continues to be little interest in joint ownership or conversion of seasonal homes to timeshare investments. Since 1980, the number of applications for seasonal homes has remained relatively constant at nearly 70% out-of-state, primarily from Maryland and Virginia. However, in that same time costs for seasonal homes have increased from \$50,000 to more than \$200,000. This is due in part to the fact that many seasonal homes are being constructed much larger than the one and two bedroom styles in the 1980s.

Communities

There are several dominant communities within this that make up much of the population base that exists within the County, residing in close proximity to urban centers that have existed since the creation of the County. These include the towns of Bath and Paw Paw, as well as unincorporated areas such as Great Cacapon and Unger.

Small Towns

The most notable community center is the Berkeley Springs area which surrounds the historic Town of Bath and serves as the County seat. This area, which includes a large concentration of the total County population, is easily identified through several distinct community features. These features, which are prevalent in both natural sites and architectural style, draw much of their attention from the tourism-driven industries of the famous natural warm spring spas and baths, historic inns, and small town shopping appeal.

The second major area within the County that is also defined as a community of distinct social and cultural activity is the Town of Paw Paw. Unlike Bath, the Town of Paw Paw is not heavily surrounded by a larger urban area. This provides the Town a greater sense of place, especially as it relates to the provision of public services and activities, making it less dependent than other areas of the County on the Berkeley Springs area to provide public services. The Town, which straddles WV Rt. 9, is located along the Potomac River at the southwestern edge of the County on the opposite side of Cacapon Mountain from Bath, and is much more rural in character with proximity to many of the close natural recreational amenities located in the County.

Unincorporated Areas

Great Cacapon is the largest unincorporated community in Morgan County which includes a surrounding population of more than 1,000 residents and businesses. Great Cacapon takes its name from the Cacapon River which empties into the Potomac River on the town's eastern fringe. It was originally known as the Cacapon Depot on the Baltimore and Ohio Railroad mainline and draws much of its history from its location along the Potomac and Cacapon rivers as well as the railroad system. Its name was changed in 1876 to Great Cacapon to differentiate it from Little Cacapon which was also on the B & O mainline. Located four miles to the west of the Panorama Overlook on Cacapon Mountain, along Cacapon Road, it is sufficiently separated from Berkeley Springs by the Mountain to have established its own identity over time, and provides many of the same services to its residents that are found in the incorporated towns.

Unger is a smaller unincorporated community located in southern Morgan County, and distinguished amongst other communities for retaining an operating post office since one was established in 1853. From 1857 to 1935, it was known as Unger's Store until its name was shortened to Unger. Although the Post Office recently closed, the community established in this area thrives with the potential of new neighboring developments. It is located at the crossroads of Winchester Grade Road (CR 13) and Unger's Store Road (CR 11).

Largent is a unique community located along the Cacapon River. Originally called Hopyard and later Enon, its population increases on weekends and during summer months due to the hundreds of cabins and camps located in the hills around the river.

Also, located in Largent is the 120-year-old Enon Primitive Baptist Church where the Cacapon is still used for baptisms.

Significant Features

Not all unique design trends can be found in roughly structured community centers, and in some cases they may exist as a grouping along waterways, single estates of some grandeur, or even publicly owned properties that offer features integral to the character of the community.

Economic Development

Economic development efforts in Morgan County are an ongoing process of adapting to the changes experienced by the community both through demographic growth and employment.

There are several types of individual commercial and industrial economic development entities in Morgan County. There are also several locations within the County that have been developed and are promoted as business parks to generate a concentration of employment opportunity. However, it appears that the largest economic development impact that exists within the County is the growing building trades industry, due in large part to the growing number of housing projects under construction.

In comparing this data with the increases in industrial employment growth or decline, it is evident that manufacturing and real estate have increased in employment base comparably to increases in wages; although declines in wholesale are evident for both wage and employment.

Major Employers

Export industries, or “basic industries”, are an important component to an area’s economy. Basic industries are considered to drive the area’s economy because the goods and services are sold elsewhere, thus bringing revenue into the area. This revenue then supports the non-basic, or service oriented industries in the local economy. Basic industries in Morgan County include, mining, lodging, wholesale trade, agriculture, fabrication, manufacturing, and freight transportation. Since 1980, both basic and non-basic industries as they relate to major employers have changed as indicated on the following comparative table.

Table 8-7 Major Employers 1984 and 2005

Rank	1984	# of employees F/P	2005	# of employees F/P
1	Pennsylvania Glass Sand	290	MC Board of Education	400
2	MC Board of Education	250	US Silica (PA Glass Sand)	168
3	Coolfont Recreation	105/40	War Memorial Hospital	150

4	Vanguard Products	120	Caperton Furniture (Seely's)	103
5	Valley View Nurse Home	102	Citizens National Bank	70
6	War Memorial Hospital	75/21	Food Lion	68
7	Consolidated Orchards	60/50	Country Inn	60
8	Cacapon State Park	60/20	Cacapon State Park	26/100
9	Country Inn & Spa	59/9	Washington Homeopathic Products	34
10	Seely's Pine Furniture	62	Eddie's Tire Service	19
Total		1,183/140		1,098/100

Source: Morgan County Government

The above table would indicate that over time, while general government employment has grown to include additional jobs, especially in the public education and health fields, overall major employment entities, especially in the manufacturing and service industry sectors have continued to decline, losing approximately 70 jobs among the top 10 employers. Private sector employment between 1990 and 2000 increased at 13% ranked as one of the lowest in the region while government and other public employment rate grew by more than 25% during the same period. Given that the smaller non-basic employment sector is an integral part of the success of the local economic employment industry as a whole, it is important to recognize the make up of those employment opportunities not included in the top ten listed in Table 8-7, as those industries combined produce a significant amount of the labor force.

Industrial Sites

Of the nine industrial sites identified in the 1985 Morgan County Comprehensive Plan, few exist in the Economic Development Authority (EDA) index today. Factors facilitating this change in direction include; previous sites identified being too small or incompatible with surrounding uses, environmental regulations that have changed over time that would limit the intensity of uses, and outside funding promoting the development of alternative locations.

One of the most prevalent factors in the change in the index from 1985 is community outlook on defining what an industrial site should be. This is highly evident in both citizen feedback during public review of the Plan update as well as the identifier used by the EDA office in promoting the current list of sites on the Index. As citizens appear to be pressing large industrial and manufacturing employers to become both more environmentally aware and aesthetically appealing, the EDA promotes areas identified in Table 8-8 as Business Parks.

Table 8-8 Industrial Business Park Site Index

Site	District	Total Acres	Acres Available
Robert C Byrd	Cacapon	30	17
Wolfe-Deerfield Property	Cacapon	30	25
522 Business Park	Timber Ridge	102	70

Shirley Farms West Site	Bath	40	40
Consolidated Orchard	Cacapon	7	7
Lippert Components	N/A	9	9
Vanguard Building	N/A	10	10
US Silica Property	Bath	2,786	500
Total Acres		3,014	678

Source: Morgan County Government

The Robert C. Byrd Industrial Park is located along WV Rt. 9 on the southeastern side of Paw Paw. It consists of 30 total acres divided into 8 lots with 17 acres on 6 lots remaining to be developed as of the 2007 Comprehensive Plan. Benefits to this site include the extension of available municipal water and sewer service from the Town of Paw Paw.

The Wolfe-Deerfield Industrial Park is also located along WV Rt.9 on the southeastern side of Paw Paw. It includes 30 total acres with 25 acres available for development as of the 2007 Comprehensive Plan, and is served by municipal water and sewer from Paw Paw.

The 522 Business Park is located along US Rt. 522 in the Timber Ridge District, which is located in the Central Valley Planning Region. It is a large Business Park consisting of 102 acres, with 70 acre available for development on 9 of the 12 total lots as of the 2007 Comprehensive Plan. However, given its close proximity to surrounding rural land and natural waterways, not all land within this park is suitable for heavy use. It is served by a private on site water and sewer system.

The Shirley Farms West Site is located along US Rt. 522 in the Bath District, and includes 40 acres of undeveloped property as of the 2007 Comprehensive Plan, being marketed for industrial business park use. It is served by a private well and septic system and does not currently have internal access roads.

The former Lippert Components building is also located along US Rt. 522, and includes a vacant 53,000 square foot warehouse style building currently occupied by ReSteel. Another building is the former Vanguard Building, which is now occupied by a hardware/lumber facility. It has nearly 95,000 square feet, with some space broken into several sections for multiple users.

Consolidated Orchard, located in the Town of Paw Paw, consists of an 81,000 square foot building broken into four sections of which three sections totaling 58,000 is currently available. It is located along WV Rt. 9, and is provided with municipal utilities and services.

By far the largest single industrial site in Morgan County, US Silica, which has changed names and ownership over its decades of existence, provides potential for continued and future major employment. Of the 2,786 acres owned by this single entity as of 2007, only a small percentage is utilized for its major mining operations of Oriskany

sand. However, as this natural mineral resource is depleted, it is expected that the company may only have approximately 20 years of productivity remaining.

Protection of Recharge Area

The Cacapon Mountain aquifer is located in Morgan County, WV. It has been postulated (Donovan, et al, 2006), based on magnitude of flow and on water chemistry, that the public water supply at Berkeley Springs is supplied by water from the Helderberg limestone which is thought to lie within 400 feet of the surface below the Town of Bath. The Helderberg is one of several formations that constitute the Cacapon Mountain aquifer, which lies largely to the west and south of Berkeley Springs. The aquifer has numerous springs of moderate size and supplies baseflow to four different streams within Cold Run Valley, the local name given to the depression between Warm Springs Ridge (where Berkeley Springs lies) and the crest of Cacapon Mountain. It is also hypothesized (Donovan et al, 2006) to likely contain the principal recharge area for Berkeley Springs. Groundwater in Cold Run Valley is also likely to become a source of new water for community supply development in Morgan County in the coming years.

The recharge area of the Cacapon Mountain Aquifer extends from the core of Cacapon Mountain on the west to the core of Warm Springs Ridge on the east, north to the Potomac River and south to a fault system just south of the Virginia-West Virginia state border. The assessment of topographic and geologic maps aided in the delineation of the recharge area for the aquifer. Surface water divides within the aquifer also aided in the estimation of groundwater divides. The primary source of recharge to the aquifer is infiltration of precipitation and snowmelt. The recharge rate was estimated to be approximately 13 in/yr (Vinciguerra, 2008).

Current public water systems supplied by the postulated Cacapon Mountain aquifer include the WV Department of Natural Resources, Cacapon state Park and the Mountainside homeowners' Association at Coolfont in addition to the Town of Bath. Other water users of this aquifer include private well owners.

Section II – Zoning as an Approach in Four Major Land Use Issues

Part I – Introduction

The Morgan County Commissioners referred four major land use issues identified in the Planning Commission’s November, 2009 Land Use Report back to the Planning Commission for more detailed follow up: billboards, water recharge areas, commercial and industrial development, and housing density. These development issues were seen as having the greatest impact on the future of Morgan County, and the options for shaping them are severely limited without the use of zoning. One of the major concerns about these four issues is where such development would occur, and the only way that the location of development can be guided is through zoning.

It is interesting to note here that in analyzing national statistics, it has been observed by the American Farmland Trust that median costs to government to provide public services per dollar of revenue raised for the following land uses are:

Commercial / industrial	\$.27 cost per dollar raised
Working / open	.36 cost per dollar raised
Residential	1.16 cost per dollar raised.

These are national averages and may not be the same in Morgan County, but they are indicative of the taxpayer burden of the relative types of use.

Discussion of each of the four issues addressed herein was organized around the following topics: existing conditions, the nature of the problem, how zoning would address the problem, and possible approaches or special aspects of zoning that might be relevant. The products of these deliberations are detailed below.

Part I I– Placement of Billboards

In a mostly rural county with a tourism industry that generates more than \$30 million annually and the 55-mile Washington Heritage Trail National Scenic Byway, billboards have a place only in specifically defined commercial areas.

A billboard is an off-premises object, device, display, sign or structure or part thereof, displayed outdoors or visible from a public way, which is used to advertise, identify, display, direct or attract attention to an object, person, institution, organization, business, product, service, event or location, or to express a point of view, by any means, including words, letters, figures, design, symbols, advertising flags, fixtures, colors, illuminations or projected images. Each substantially different face of a billboard structure shall constitute a separate billboard. Billboards do not include on-premises commercial or political signage nor small commercial or non-commercial signs temporarily placed in residential lawns by residents, owners, contractors, realtors, or by or on behalf of political candidates or issues. (Source: Laws and Regulations Relating to Outdoor Advertising in West Virginia – June 2004.)

Existing Conditions

An inventory and survey of existing billboards was conducted for this report. The results are listed below.

Billboards on 522 starting at MD line:

Miles from MD Line	Owner	Number	Material	Est. Size	Panels Rented or Vacant
4.1W	Coolfont		wood	12x12	1 rented
4.4E			wood 6 pole	24x36	5 rented
6.5E	Kegeris		steel	32x24	4 rented
6.7W	Insite	WV26	steel	24x36	2 rented
7.8W			wood 4 pole	24x20	1 rented
8.3E	Insite	NA23	steel	24x40	2 rent/1 vac
8.8W	Allegheny Advertising		wood 2 pole	20x36	3 rent/1 vac
9.4E	Insite	WV22	steel	20x36	2 rent/2 vac
9.6W	Insite	WV27	steel	24x32	4 rented
9.9E			wood	30x22	4 rented
10.0W			wood	10x16	1 rented
10.0E			wood	12x20	1 rented
10.7E	Palmer Adv		wood	30x20	1 rent/1 vac
10.7E	Insite	WV10	steel	20x36	3 rent/1 vac
10.8W			wood	20x20	1 rented
Cold Run Valley Road					
11.0W			wood	20x20	1 rented
12.5W			steel	30x24	3 rent/1 vac
13.0E			wood	30x16	1 rented
16.1E			steel	20x30	2 rent/2 vac
16.2W	Palmer Adv		wood	30x16	2 rented
16.4W	Palmer Adv	102	wood	16x16	1 rent/1 vac

Billboards on Rt 9 starting at Morgan/Berkeley line going west:

1/10S	Insite	WV9	steel	24x36	3 rent/1 vac
8.0S	Insite	WV25	steel	24x36	3 rent/1 vac
13.0S	Herb Auto		wood	10x10	1 rented

Notes:

- Sign sizes are width x height
- Letters (N,S,E,W) beside mileage designate what side of highway billboard is on
- The following were not included:
 - Realty signs

- On site business and private signs
- Signs 4' x 8' or less
- Signs within incorporated limits of Berkeley Springs and Paw Paw

Summary:

- Total billboards along Route 522 from Maryland line to Virginia line – 21
 - Average billboards per mile – 1.05
 - Total panels rented – 44
 - Total panels vacant – 11
 - % vacancy – 20%
- Total billboards along Route 9 from Morgan/Berkeley line to Paw Paw – 3
 - Average billboards per mile - .083
 - Total panels rented – 7
 - Total panels vacant – 2
 - % vacancy – 22%

The Washington Heritage Trail Scenic Byway, a federally designated trail through parts of Morgan County, provides protection against the placement of billboards on the trail. The path of the 55-mile-long trail is described as follows: Route 9 east starting at the Berkeley County/Morgan County line traveling towards Berkeley Springs to the intersection of Route 9 east and Route 522; the Route 522 north to intersection of Route 522 and Route 9 west; the entire length of Route 9 west to Paw Paw, WV; from Route 9 west to Cold Run Valley Road, the entire length of Cold Run Valley Road to the intersection of Cold Run Valley Road and Rock Gap Road; south on Rock Gap Road to the intersection of Rock Gap Road and Route 522 South; Route 522 south from this intersection to intersection of Route 522 and Fish Hatchery Road; Fish Hatchery Road to Timber Ridge Road, on to Unger's Store Road then to Winchester Grade Road and on to Shanghai Road, ending at the Morgan County/Berkeley County line at the Sleepy Creek Wildlife Management Area.

Statement of the Problem

Billboards constitute a separate and distinct use of the land upon which they are placed and affect the use of adjacent areas. They are a commercial use of public space. In most places, they are out of character in our primarily rural and picturesque county. And, they negatively impact the scenic values so important to the county's tourism industry.

How Zoning Could Address the Problem

Zoning could designate the areas of the county where the placement of billboards would be acceptable. Although parts of the county are protected against the placement of billboards, other areas with their own intrinsic values are not currently protected.

Possible Zoning Approaches

Of note are two major approaches to the county: the north and south ends of Rt. 522, i.e., from the Potomac River bridge south to the Town of Bath, and from Fish Hatchery Rd. south to the state line. If these sections of Rt. 522 were protected against billboards, the section of Rt. 522 from the Town of Bath south to the southern intersection of Rock Gap Rd and Route 522 could be made available for the placement of billboards.

Dealing with this issue through the zoning process is supported in our Comprehensive Plan which states the following goals and objectives.

“Developing regulations governing the protection of the community’s character, specifically to address issues relating to billboards and signs.”
(Chapter 7, Recreation and Tourism)

Part III – Protection of Recharge Areas (Aquifer Protection)

Despite the fact that the boundaries for the recharge area in the main valley of Morgan County have not been and likely cannot be absolutely identified, there is a need for caution in development in known karst areas because of their probable importance to the springs. Specifications for water sources and sewage treatment need to be protective, clearly defined and comprehensively applied.

Existing Conditions

Except for the residents of the Town of Paw Paw, who use water from the Potomac River, Morgan County residents rely on groundwater for all their drinking water. Residents obtain water from public or private wells, or from springs that deliver groundwater to the surface without pumping. The largest single source of public water in Morgan County is the warm mineral springs located in Berkeley Springs State Park. The Berkeley Springs are used by the Town of Bath Water Works, which delivers treated drinking water to 20% of the county's population; by commercial water suppliers, which pump untreated water into tanker trucks for treatment and commercial sale; by the state park in its Roman baths and spas; and by a large number of citizens whose private drinking water supply is not as potable as the spring water.

The geology of the region determines the characteristics of the water and the quantity available for withdrawal from aquifers (natural water storage areas). How the land is used, soil type, bedrock, and amount of precipitation influence how much water can flow down to recharge the groundwater. Geology also controls the flow path of the water as it travels back to the surface through wells or springs. The geology of Morgan County is comprised of primarily of sandstone, shale, and limestone layers. Limestone generally has the potential for holding a large amount of groundwater because fractures and fissure in the rock can be enlarged by natural acids, which slowly dissolve carbonate

rocks.

The openings and channels in limestone fill with water and can yield large quantities if tapped by a drilled well. Typically, the most productive springs originate in limestone because the large channels in the rock collect and transmit groundwater to the surface. In Morgan County the area where limestone bedrock is found at or near the surface is located between the western side of Warm Springs Ridge and the eastern side of Tonoloway Ridge. Known as the Helderberg-Tonoloway-Wills Creek limestones (Helderberg), this high yielding formation runs southwest to northeast the length of the county and has proven to be associated with high yielding aquifers.

Usually the source of groundwater tapped by wells drilled in sandstone and shale can be assumed to be from close proximity to the well because these rocks generally have lower rates of transmissivity. Wells and springs from limestone may have recharge from much larger areas and the groundwater can travel more quickly to the surface due to the large openings and channels. While it is not known with complete certainty, recent geological studies sponsored by the Rural Water Committee indicate that the source of Berkeley Springs may reasonably be thought to be the limestone recharge area west of Warm Springs Ridge. Many of the other productive springs and wells in the county tap the Helderberg-Tonoloway-Wills Creek formation, including those in Cacapon State Park, Cold Run Valley, and the community of Great Cacapon.

Statement of the Problem

Because so many residents rely on groundwater from this Silurian carbonate aquifer, it can be considered the most productive and the most fragile groundwater recharge area in the county. Characteristics that make the limestone productive are also the same reasons it is environmentally sensitive. The same large channels that hold water can also provide an unobstructed interface between the surface and groundwater. Precipitation on the land can move rapidly through limestone carrying contaminants from the surface down to groundwater. Once in the aquifer, the quick time of travel through large openings can rapidly disperse pollutants.

Estimates based on observations and general studies indicate that in rural areas about 8 to 18 inches (or about 20% to 50%) of precipitation infiltrates into the soil each year. Once water infiltrates soil, about 25% eventually discharges to streams, and as much as 30% to 40% is taken up by vegetation and released back into the atmosphere. Only 15% to 35% of precipitation is able to infiltrate deeper to the groundwater. Groundwater recharge is even less in developed areas primarily because of the increase in impervious surfaces that prevent precipitation from infiltrating into the soil and then down to the aquifer. In densely developed areas it is common to have public wastewater treatment systems that discharge treated water directly to streams. This also bypasses the opportunity to return water pumped out of an aquifer back to groundwater.

How Zoning Could Address the Problem

Zoning could establish land use criteria that would protect groundwater from contamination and excessive extraction by guiding practices that:

- maximize the infiltration of precipitation into the soil;
- manage land use activities that store, handle, or produce regulated and hazardous materials;
- encourage the use of best management practices that safeguard existing topography;
- minimize expenditure of public money for pollution remediation projects;
- minimize regulations to incentivize activities that are not a threat to public water supplies; and,
- insure that the public is provided with safe potable water supply now and for future generations.

Possible Zoning Approaches

Zoning codes for environmentally sensitive areas frequently use overlay zoning, a special zone placed over existing zoning districts. The overlay zone establishes regulations for property within the zone as an alternative or in addition to those of the base zoning district. The overlay usually provides requirements or incentives intended either to protect a specific resource or to encourage development in certain areas. Overlay zones allow for increased flexibility in local zoning and are easier to change than traditional zoning districts if new information is found that indicates an adjustment should be made to the overlay boundary. Geology mapping was updated for Morgan County by the WV Geological and Economic Survey a decade ago and could serve as the basis for an aquifer recharge zone based on the Helderberg.

Common sources of groundwater contamination.		
Source: U.S. EPA, Protecting Local Ground-Water Supplies Through Wellhead Protection EPA 570/9-91-007.		
Land Use	Contaminant Source	
Agricultural	Animal burial areas Barnyards Fertilizer storage and use	Irrigation sites Manure spreading areas/pits Pesticide storage/use
Commercial	Airports Auto repair shops Construction areas Car washes Cemeteries Dry cleaners Gas stations Golf courses	Jewelry and metal plating Laundromats Medical facilities and nursing homes Paint shops Photography establishments Railroad tracks and yards Scrap and junkyards Storage tanks

Industrial	Asphalt plants Chemical manufacture/ storage Electronics manufacture Electroplaters Foundries/ metal fabricators Machine/ metalworking shops Mining and mine drainage	Petroleum production/storage Pipelines Septage lagoons and sludge Storage tanks Toxic and hazardous spills Wells (operating/ abandoned) Wood preserving facilities
Residential	Fuel oil Furniture stripping/ refinishing Household hazardous products Household lawn chemicals	Septic systems, cesspools Leaking sewer lines Swimming pool chemicals
Other	Hazardous waste landfills Municipal incinerators Municipal landfills Municipal sewer lines Open burning sites	Recycling/ reduction facilities Road deicing operations Road maintenance depots Storm water drains/ basins Transfer stations

Dealing with this issue through the zoning process is supported in our Comprehensive Plan which states the following goals and objectives.

“Recognizing and protecting sensitive groundwater recharge areas and encouraging water conservation.”

(Chapter 4 – Public Utilities and Infrastructure)

“Encouraging reduction of the contamination of groundwater of the recharge areas for the natural springs in the Town of Bath.”

(Chapter 6 – Sensitive Areas)

Part IV – Commercial and Industrial Locations

Mining, heavy and light industry, and large scale retail enterprises have specific requirements including quality transportation, primarily roads, and adequate utility service including water, sewer and telecommunications. These commercial activities, as well as certain others (like adult-oriented businesses) that have significant impact on residential areas around them require careful consideration of their location. Finally, efficiency suggests concentrating locations of substantial commercial activity. In a mostly rural community with a modest population, small in-home or backyard businesses should be encouraged

Survey of existing conditions.

Current Land-Use for Major Commercial and Industrial Facilities

Industrial-sites based on Comprehensive Plan (total 3,014 acres) are as follows.

- Robert C. Byrd – 30 acres located along WV Rt. 9 on the southeastern side of Paw Paw. It is divided into 8 lots with 17 acres on 6 lots remaining to be developed. It is served by municipal water and sewer system from the Town of Paw Paw.
- Wolfe-Deerfield Property – 30 acres located along WV Rt. 9 on the southeastern side of Paw Paw. It has 25 acres available for development and is served by municipal water and sewer from Paw Paw.
- 522 Industrial-Business Park – 102 acres along U.S. Rt. 522 in the Timber Ridge District of the Central Valley Planning Region. Of the 12 total lots, 9 lots totaling 70 acres are available for development. It is served by a PSD-operated water and sewer system.
- Shirley Farms West Site – 40 acres located along U.S. Rt. 522 in the Bath District. All 40 acres are available for development. It is served by a private well and septic system and does not currently have internal access roads.
- Consolidated Orchard – 81,000 sq. ft. building located in the Town of Paw Paw. It is broken into 4 sections, with 3 sections totaling 58,000 sq. ft. available. It is provided with municipal water and sewer services from Paw Paw.
- Lippert Components – 53,000 sq. ft. warehouse style building located in the 522 Business Park along US Rt. 522. The building is now occupied by Re-Steel. Water and sewer are provided by the well and central sewer system for the business park.
- Vanguard Building – 95,000 sq. ft. building, which is mostly occupied by Dawson's Hardware, with smaller spaces for other retail businesses. Water and sewer are provided by their private well and septic systems.
- US Silica Property – 2,786 acres located along both sides of US Rt. 522 north of the Town of Bath. The mine has changed names and ownership over its decades of existence, providing major employment opportunities for county residents. Only a small percentage of the land is utilized for mining operations of Oriskany sand. The company is the largest user of water from the Berkeley Springs via the municipal system of the Town of Bath; however, sewage is not on the Warm

Springs PSD system and is presumed to be serviced by a private septic system. As of the year 2000 the company estimated 20 years of productivity remained, which means operation of the mine would probably end by the year 2020.

Industrial sites, approved since the Comprehensive Plan 2007, are in the 522 Industrial-Business Park:

- Washington Homeopathic Administration Building
- Blue River Shopping Center.

As of the 2007 Comprehensive Plan, Commercial Land Use comprised 1,212 acres of the rural areas within the county, outside of the incorporated towns and excluding industrial parks. ILP applications (building permits) approved since the plan include the following.

- JKS Storage – Storage rentals located on Sir Johns Run Road
- Hancock and Northwestern Trucking Building – US Rt. 522 across from Seely Co.
- Allegheny Power Building – US Rt. 522 across from Compton Building.
- Fraternal Order of Eagles Building – US Rt. 522 across from Dairy Queen
- Dollar Store – US Rt. 522 across from Widmyer School
- Warm Springs Baptist Church – Pious Ridge Road at Jim West Road intersection
- War Memorial Hospital – Fairview Drive, 1.9 miles north of Rt. 9, is comprised of 80 acres with 10 building sites.

In addition to these businesses, there are numerous small commercial operations throughout the county.

A major economic sector in Morgan County is the cluster of businesses and services related to construction and renovation of both commercial and residential structures. This cluster includes everything from actual construction personnel to attorneys, realtors and landscapers as well as the retail establishments that supply them. It is obvious that creation of building lots through the subdivision of land is necessary to this sector.

Although U.S. Census procedures do not tabulate some categories of significant economic activity for Morgan County such as "construction" or "manufacturing", 2002 data do show the following:

<u>Description Sales (\$1,000)</u>	<u>Establishments</u>
Wholesale trade (NA)	7
Retail trade (82,486)	53
Information (NA)	5
Real estate (2,263)	10
Professional scientific & technical services (NA)	14
Administrative & support & waste mgmt. & remediation (NA)	11
Educational services (NA)	2

Health care & social assistance (31,568)	24
Arts, entertainment & recreation (NA)	6
Accommodation & food service (18,033)	22
Other (NA)	24

Statement of the Problem

Commercial activity in Morgan County can be sub-classified into three categories: first, heavy industry and mining, which at present includes only the U.S. Silica facility; second, light industry and commercial, which includes mid-size operations such as the concrete plant south of Berkeley Springs, the Dollar General Store and Caperton Furniture; and third, small and home-based businesses, such as back-yard auto repair or cabin rental, which are spread throughout the county.

Each of these categories can be viewed as requiring some level of public infrastructure such as adequate roads and as placing challenges on surrounding properties. Examples of these challenges are heightened noise levels of commercial activities in residential areas or visual impact on open spaces or viewsheds. Because of the potential for conflict posed by having commercial activity with certain characteristics located in rural residential neighborhoods and the resultant decrease in property values or negative impact on other industries such as tourism, attempts should be made to reduce that potential.

Characteristics that should be utilized in considering the location of commercial activities are number and type of vehicle counts, number of employees, noise, visual impact, and environmental impacts such as total area of impervious surfaces, light pollution, odor, air, water and surface contaminants.

Noteworthy is the unknown number and location of sub-surface mineral rights leases entered into by individual land owners in the county with oil and gas exploration companies. Activation of these leases for the commercial extraction of oil or gas would represent additional challenges for property owners.

How would zoning address this problem

Zoning would address the problem of commercial activities creating abrasive effects by channeling businesses with certain characteristics to appropriate areas. For example, a light industry with a large number of employees or a retail store with a large traffic count should be located on a major road such as Rt. 522. Or, an owner-operated home-based business such as a blacksmith, hair salon, or accounting office could be anywhere in the county because of the low-impact characteristic profile it presents.

Dealing with this issue through the zoning process is supported in our Comprehensive Plan which states the following goals and objectives.

“Using incentives to locate businesses in appropriate areas with adequate access, including on unimproved land suitable for a range of compatible uses, as infill existing commercial zones and in vacant commercial properties and industrial sites suitable for redevelopment.”

(Chapter 8 – Economic Development)

Part V – Housing Density

Density of Residential Housing

Existing Conditions:

Information regarding the current location of residential housing is available from the planning commission and other Morgan County Records. The only known high density development is Catawba Community in Berkeley Springs and a pending community known as Creekside on Snake Eyes lane at the South End of Morgan County that has received concept plan approval for 400 homes on 112 acres.

General information affecting residential development is outlined in the “Description of Morgan County” (drawn from the Comprehensive Plan) in Part IV of Section I above. Three most important factors include the following:

- Residential development can occur anywhere in Morgan County as long as the development complies with the Morgan County Subdivision Ordinance, Morgan County Commercial & Industrial Improvement Location Permit Ordinance and requirements of the State of West Virginia.
- Access to public sewer is provided by the Warm Springs Public Service District (WSPSD) and currently the primary availability within the County is along 522 South up to the location of the Mellott Concrete Plant, and within Great Cacapon. The Town of Paw Paw operates their own facility. Access to, required hookup, and expansion of these facilities are regulated through the West Virginia Public Service Commission (WVPSC) and the West Virginia Department of Environmental Protection (WVDEP). Individual Septic Systems are approved by the Morgan County Department of Health. Community Septic Systems are regulated through the WVDEP and the WVPSC. The WSPSD can assume operation or the assumption of ownership and operation of facilities installed within residential developments.
- Currently no water services are provided in the County by the Warm Springs Public Service District and a moratorium exists on Berkeley Springs Water Department which serves the Town of Bath and 800 customers in the county. The Berkeley Springs Water Department can add hookups within the County when the moratorium is lifted and can expand, provided funding and water resources are available, for up to 20 miles outside their municipality. The capacity of this facility and extension of services within the county require authorization by the West Virginian Public Service Commission.

Statement of the Problem

Problems associated with increasing density of residential development include these.

- Increased traffic with associated ingress and egress from residential developments. Obviously this will vary with the size, location, density and proximity to commercial or industrial sites.

- Location of Fire Stations relative to residential development, capacity to respond and response time particularly where there are high density developments.
- Location and capacity of other public services such as police.
- Capacity of waste disposal and recycling resources.
- Buffer zones between commercial and residential development.
- Location of and level of schools as high density may include affordable housing, senior housing or homes targeted at 1st time buyers.
- Hospital and related health care services
- Provision of public water and sewer services

How Zoning Would Address This Problem

Outlined below are areas that might be addressed by zoning related to residential development and in particular developments with a high concentration of residents. Obviously, placement of development close to current public service resources, schools and roads capable of supporting traffic will serve to address the impact of development. Recognizing that growth will and should occur in order to continue to have a vibrant community, provisions must be made when considering zoning for the expansion of these resources. This may include consideration being given to where expanded facilities should be constructed and land being acquired and held in anticipation of expanding these services. Zoning can be an economic development tool and if implemented, should be growth friendly and encourage responsible development.

Conditions within developments should to the extent possible be addressed in the Subdivision Ordinance or the Commercial and Industrial Improvement Location Permit Ordinance.

Problem Associated with Density	Impact of Zoning
Traffic – Greater housing density will have proportionately greater impact on local roads, and this effect is multiplied by the availability of and distance to local services.	Zoning can limit the placement of developments with a high concentration of residents i.e. those with high volumes of traffic, such that they must have direct access to primary highways (i.e. Rts. 9 and 522), or major secondary roads
Emergency (fire, ambulance, and police) services – Centers of greater population density will increase demand on these services. Capacity as well as response times must be considered	Zoning can ensure that developments with greater population density are placed close to police, fire and ambulance stations to maximize service and efficiency. This will minimize travel time for responders and thus enhance the safety of all county residents. *
Essential shopping – Placement of population centers away from essential shopping areas – grocery stores, gas	Zoning can direct higher density developments to areas near essential shopping. This will reduce travel time, and

stations, drug stores, restaurants, hardware stores – contributes to traffic congestion, is inefficient and inconvenient.	impact on local roads. Provisions should be made for the inclusion of small commercial town centers within residential areas that could support convenience shopping, create live/work space etc. thereby removing traffic from the primary roadways.
Waste disposal and recycling – Higher density development will inevitably create greater demand on waste disposal and recycling services.	Zoning of developments with greater population densities can take into account location of public or privately managed waste transfer stations to maximize pick up efficiency and minimize the distance trash must be hauled.
Incompatible uses – There are inherent conflicts resulting in reduced quality of life and negative effects on property values when higher density housing adjoins certain incompatible land uses, e.g. commercial, industrial or agricultural areas.	Zoning can locate concentrations of population housing such that there is reasonable buffering between incompatible uses.
Availability of Schools – Higher density housing has the potential to feed large numbers of children into local schools, which may or may not be large enough to handle the increase.	Zoning can direct concentrations of population to areas where there are schools of sufficient size and capacity to handle significant increases in the numbers of school age children.*
Health Services – With population growth and a concomitant increase in the number of local health providers, it will be more likely that people will use local health services for routine medical care. The availability and location of emergency medical services is also an issue.	As with essential shopping, zoning can direct higher density population centers proximate to medical services. In the case of emergency care, this is a significant life safety issue.
Water and Sewer – The availability of water, and assurance that sewage is properly handled is addressed with the stipulation that with greater housing density, central water and sewage treatment are required. However, a proliferation of private water and sewer systems requiring ongoing maintenance is an issue, as are the limitations of public water and sewer system(s) to accept new customers. Also to be considered must be the impact of the discharge of treated water (with some untreatable substances) and the capacity of local streams.	Zoning can, at one extreme, allow high density housing only where there is public water and sewer available, or where the Public Service District can reasonably assume responsibility for private systems.*

Possible Zoning Approaches

*One approach to mitigating the effect of increased demand on infrastructure (e.g. police, fire, schools, recreation facilities) when the growth scenario is sufficient to warrant it is the imposition of impact fees. These fees, in conjunction with thoughtful placement of high density development through zoning, should enable the county to make the most efficient use of the existing government resources, and offset the cost of future demands on these services. A capital development plan must however be developed prior to such fees being implemented.

Dealing with this issue through the zoning process is supported in our comprehensive plan which states the following goals and objectives.

“Encouraging the placement of high density development in areas served by central water and sewer systems.”

(Chapter 4 – Public Utilities and Infrastructure)

“Providing incentives to focus new development around existing population centers and available public resources.”

(Chapter 2 – Population and Housing)

Attachments

Copies of the public comments are available for review at the Morgan County Planning Office.